

大數據行銷研究

Big Data Marketing Research



Tamkang
University
淡江大學

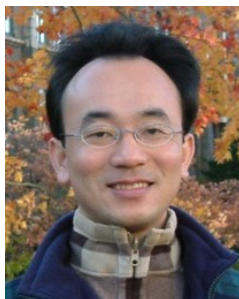
測量構念

(Measuring the Construct)

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MIS EMBA (M2262) (8638)

Thu, 12,13,14 (19:20-22:10) (D409)



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<http://mail.tku.edu.tw/myday/>

2016-10-14



課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
1	2016/09/16	中秋節 (調整放假一天) (Mid-Autumn Festival Holiday)(Day off)
2	2016/09/23	大數據行銷研究課程介紹 (Course Orientation for Big Data Marketing Research)
3	2016/09/30	資料科學與大數據行銷 (Data Science and Big Data Marketing)
4	2016/10/07	大數據行銷分析與研究 (Big Data Marketing Analytics and Research)
5	2016/10/14	測量構念 (Measuring the Construct)
6	2016/10/21	測量與量表 (Measurement and Scaling)

課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
7	2016/10/28	大數據行銷個案分析 I (Case Study on Big Data Marketing I)
8	2016/11/04	探索性因素分析 (Exploratory Factor Analysis)
9	2016/11/11	確認性因素分析 (Confirmatory Factor Analysis)
10	2016/11/18	期中報告 (Midterm Presentation)
11	2016/11/25	社群運算與大數據分析 (Social Computing and Big Data Analytics)
12	2016/12/02	社會網路分析 (Social Network Analysis)

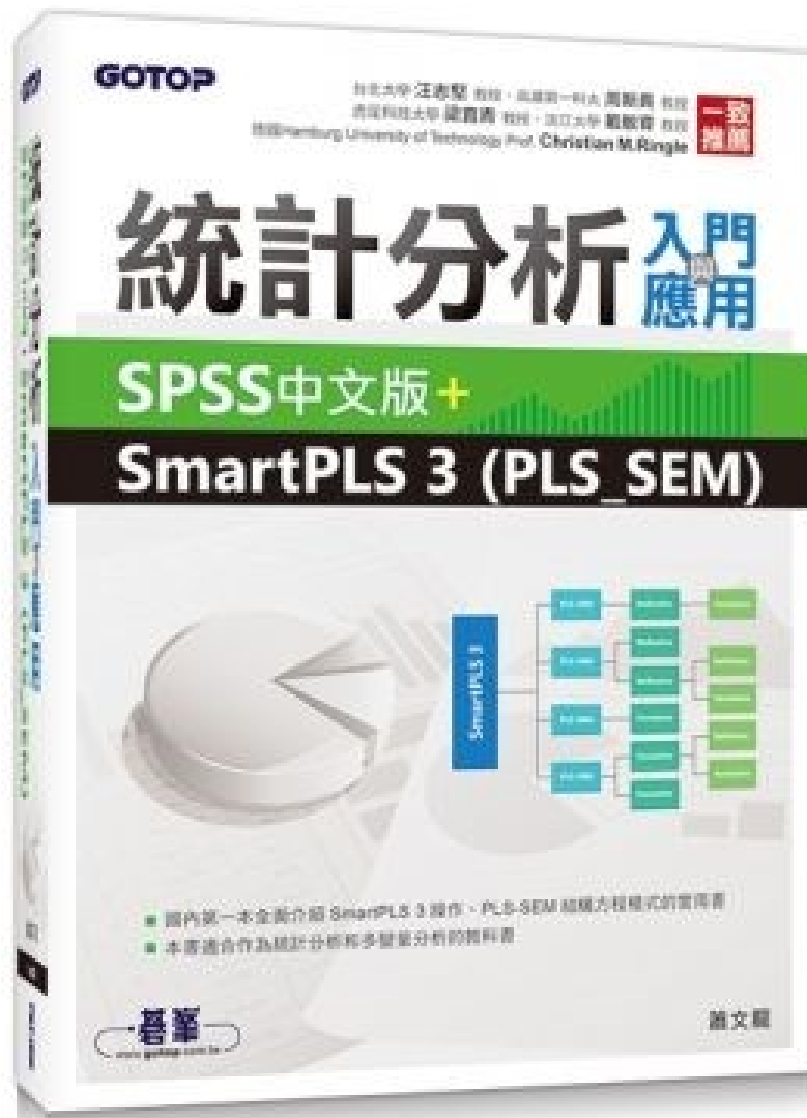
課程大綱 (Syllabus)

週次 (Week)	日期 (Date)	內容 (Subject/Topics)
13	2016/12/09	大數據行銷個案分析 II (Case Study on Big Data Marketing II)
14	2016/12/16	社會網絡分析量測與實務 (Measurements and Practices of Social Network Analysis)
15	2016/12/23	大數據情感分析 (Big Data Sentiment Analysis)
16	2016/12/30	金融科技行銷研究 (FinTech Marketing Research)
17	2017/01/06	期末報告 I (Term Project Presentation I)
18	2017/01/13	期末報告 II (Term Project Presentation II)

Outline

- Understanding the concept of Measurement
- The Measurement Process

蕭文龍 (2016),
統計分析入門與應用：SPSS 中文版 + SmartPLS 3 (PLS_SEM)，
碁峰資訊



蕭文龍 (2016), 統計分析入門與應用：SPSS中文版+SmartPLS 3 (PLS_SEM), 基峰資訊

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新品排行榜
週暢銷
月暢銷
季暢銷

大專高中職教科書

▲文史哲學群
-法律工具書
▲大眾傳播學群
▲教育學群
▲醫藥衛生學群
▲藝術學群
▲資訊學群
☆通識用書
理工學群
土木、建築群
▲電機與電子群
▲機械群
財經商管學群
設計群
▲餐旅群
社科法律學群
美容、幼保、家政

統計分析入門與應用：SPSS中文版+SmartPLS 3 (PLS_SEM) (商品編號：DJAV0S-A9006UWCI)

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作者：蕭文龍
ISBN：9789863479482
出版社：基峰資訊
出版日期：2016/03/04

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作者相關書籍



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網路概論 [p658] 1807M-5 (二手書 十成新)
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蕭文龍 (2016),

統計分析入門與應用：SPSS 中文版 + SmartPLS 3 (PLS_SEM)，
碁峰資訊

- 國內第一本全面介紹SmartPLS 3操作、PLS-SEM結構方程模式的實用書。
- 國內第一本深入探討最新量表發展、中介和調節變數的應用、reflective(反映性)和 formative(形成性)指標的發展和模式的指定。
- 本書以實用的角度引導學員從學習社會科學概念開始介紹，到完成一份專題、研究生論文和論文投稿，對於大學部專題，碩博士學生，量化的研究人員都有莫大的幫助。
- 以統計分析(多變量分析)為主軸，整合了理論的介紹、量化的研究、量表的發展、卡方檢定、因素分析、迴歸分析、區別分析和邏輯迴歸、單因子變異數分析、多變量變異數分析、典型相關分析、信度和效度分析、聯合分析多、元尺度和集群分析，第二代統計技術-結構方程模式(SEM)。

蕭文龍 (2016),

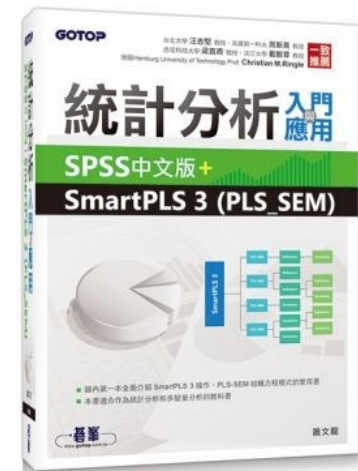
統計分析入門與應用：SPSS 中文版 + SmartPLS 3 (PLS_SEM)，
碁峰資訊

- 內容涵蓋 SmartPLS 3 基本操作、PLS-SEM 結構方程模式的學習範例、反映性和形成性指標與模式的指定、二階和高階因果關係、SEM 結構方程模式實例、中介和調節變數的應用、論文結構、研究範例和 Hayes PROCESS for SPSS 軟體使用說明。
- 本書可作為統計分析和多變量分析的教科書，也是 Hair, Black, Babin, and Anderson 所撰寫的 Multivariate data analysis Multivariate Data Analysis 多變量分析的最佳輔助參考書籍，更是 Hair, Hult, Ringle, and Sarstedt 所撰寫的 A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) 的最佳輔助參考書籍。

蕭文龍 (2016),

統計分析入門與應用：SPSS 中文版 + SmartPLS 3 (PLS_SEM)，
碁峰資訊

- chapter 01 統計分析簡介與數量方法的基礎
- chapter 02 SPSS 的基本操作
- chapter 03 量表的發展，信度和效度
- chapter 04 檢視資料與敘述性統計
- chapter 05 相關分析(Correlation Analysis)
- chapter 06 卡方檢定
- chapter 07 平均數比較(t 檢定)
- chapter 08 因素分析
- chapter 09 迴歸分析
- chapter 10 區別分析與邏輯迴歸
- chapter 11 單變量變異數分析



蕭文龍 (2016),

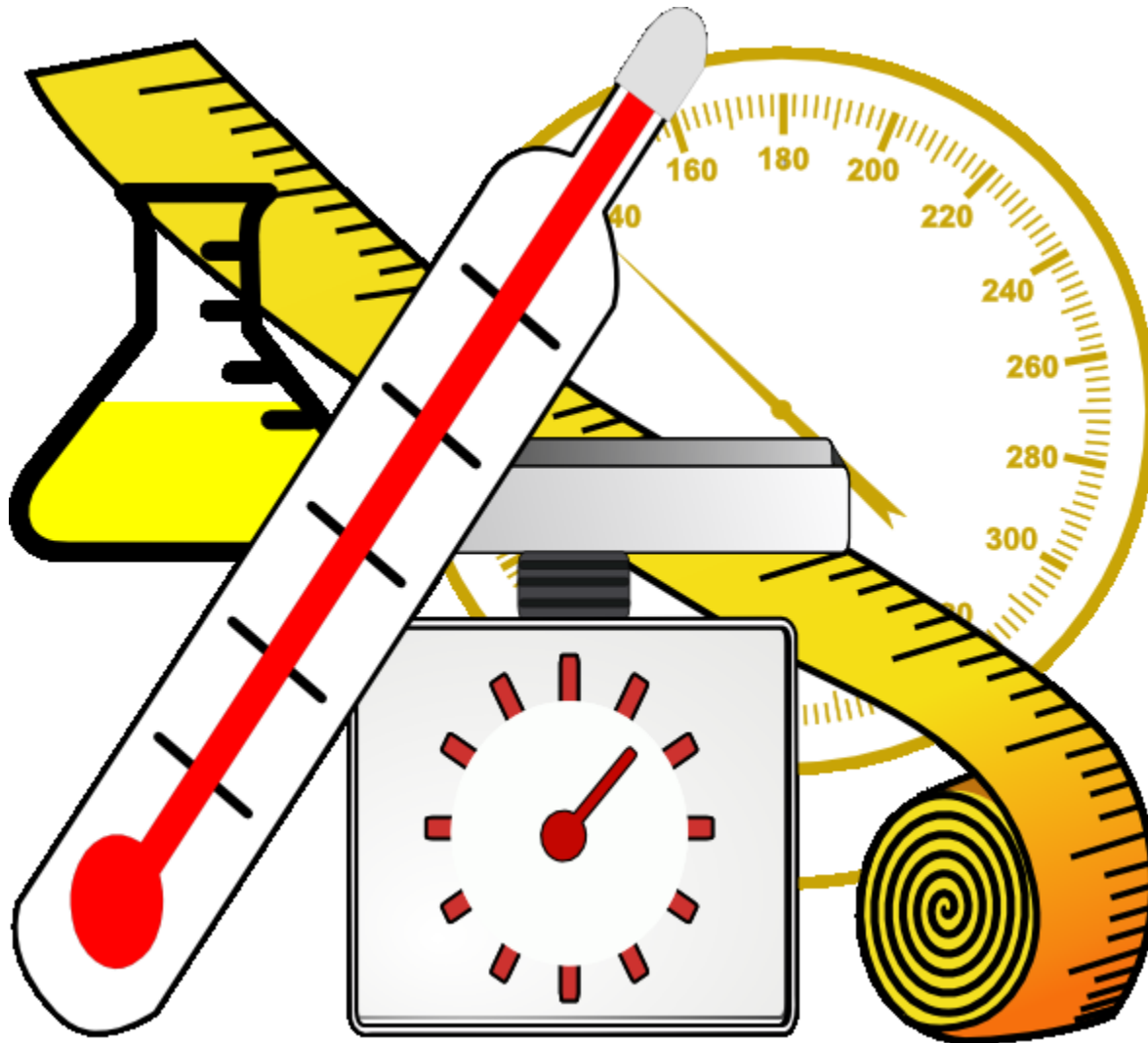
統計分析入門與應用：SPSS 中文版 + SmartPLS 3 (PLS_SEM)，
峇峰資訊

- chapter 12 多變量變異數分析
- chapter 13 典型相關
- chapter 14 聯合分析、多元尺度方法和集群分析
- chapter 15 結構方程模式之 Partial Least Squares(PLS) 偏最小平方
- chapter 16 Smartpls 統計分析軟體介紹
- chapter 17 PLS-SEM(SmartPLS) 結構方程模式的學習範例
- chapter 18 PLS-SEM 結構方程模式實例
- chapter 19 反映性 Reflective 與形成性 Formative 模式
- chapter 20 交互作用、中介和調節(干擾)
- chapter 21 SmartPLS 3 進階應用介紹
- chapter 22 研究流程、論文結構與發表於期刊的建議
- appendix A Hayes process 的中介和調節



**Understanding
the
concept
of
Measurement**

Measuring Tools



Measuring Happiness

Measuring Happiness

EXHIBIT 10.1 Top Five Picks for Definition of Happiness

Happiness (Ranking 1 = Most Selected)	U.S.	U.K.	India	Canada	Europe (mainland)	Scandinavia	China	Japan
Being physically fit and active throughout my life	2	2	1	1	1	2	5	3
Enjoyment, fun, and laughter throughout my life	4	4				5	3	5
Good health throughout my life				5		1	2	1
Having a wonderful and lasting marriage	2	3	4	2	5	3	4	
Having children and a happy family	5	5	5	4	4	1	1	
Having enough time and money to be content	1	1	3	3	2	2		2
Having enough time to enjoy all that life has to offer	3		2	3	3	1	1	4
Having good friends and good times						4		

Source of Happiness

Source of happiness (Ranking 1 = Most Happy)	U.S.	U.K.	India	Canada	Europe (mainland)	Scandinavia	China	Japan
My current residence	3	2	2	3	2	3	3	1
My community	2	3	3	2	3	2	4	3
My family life	1	1	1	1	1	1	1	2
My romantic life	5	4	4	5	5	5	2	5
My work life	6	6	6	6	6	6	5	6
My social life	4	5	5	4	4	4	6	4

Measurement

- The **process of assigning numbers or labels** to persons, objects, or events in accordance with **specific rules** for representing quantities or qualities or attributes.
- **Rule:**
 - The guide, method, or command that tells a researcher what to do.

Constructs

- Specific types of **concepts** that exist at **higher levels of abstraction.**

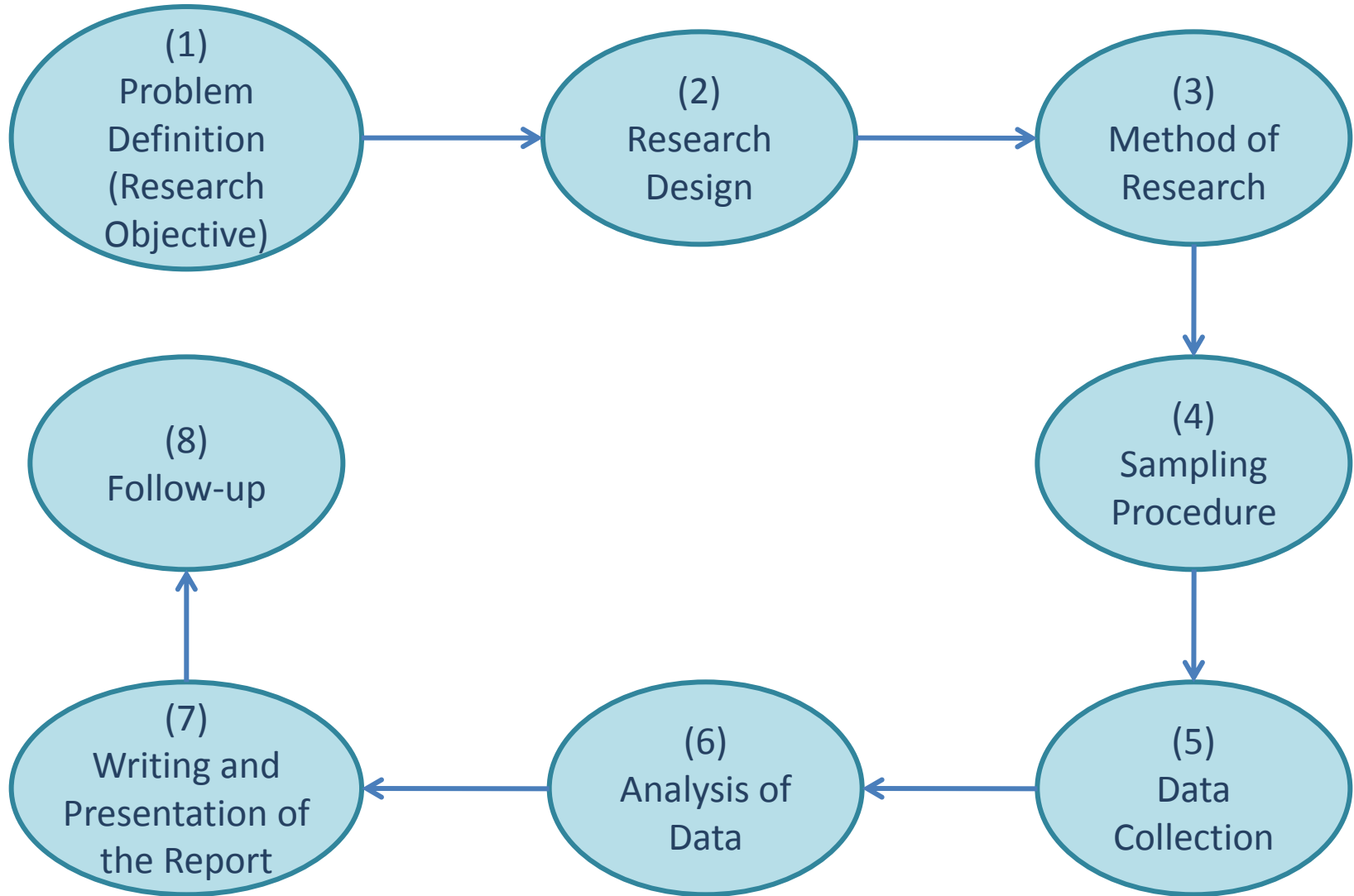
Concept & Construct

- Concept and Construct are abstractions of reality.
- **Concept**
 - expressed in every-day terminology.
 - This requires the researcher to generalize/categorize.
- **Construct**
 - theoretical abstraction that can't really be observed
 - (e.g., love, trust, social class, personality, power).

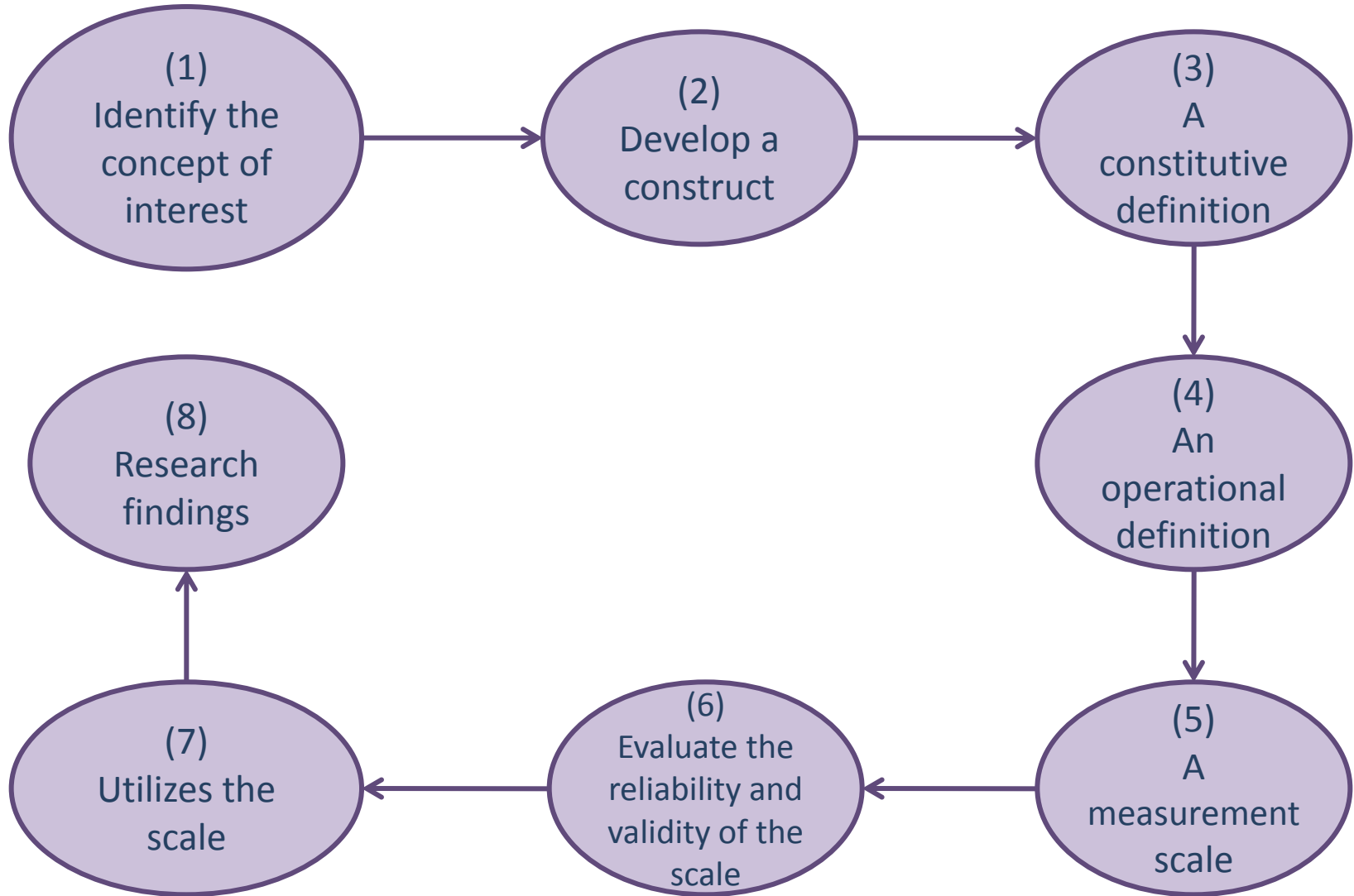
Example of Concept & Construct

- Question – Why do some customers buy Air Jordan athletic shoes over and over again?
- **Concept**
 - Repeat purchase
- **Construct**
 - Brand loyalty

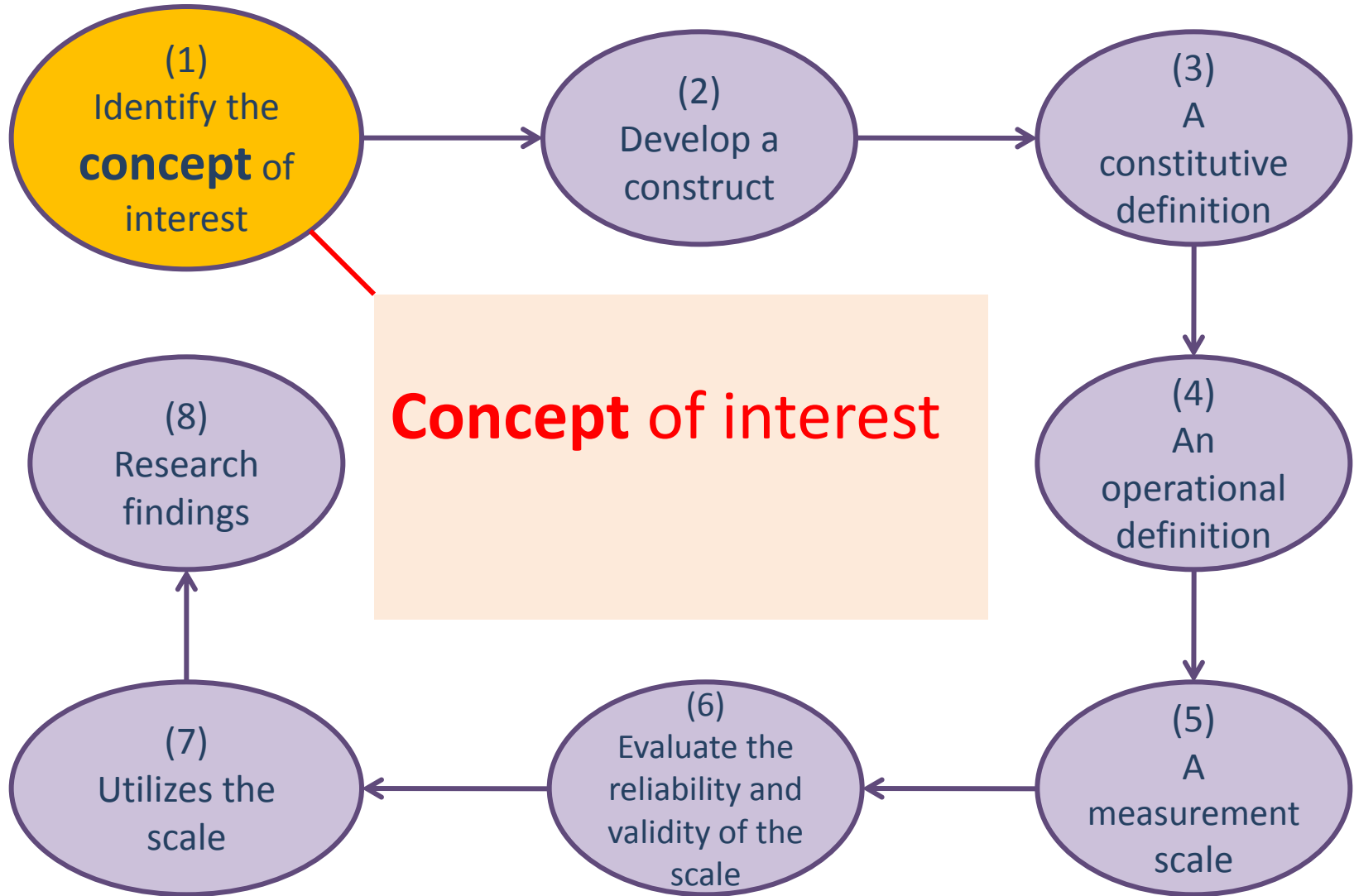
The Marketing Research Process



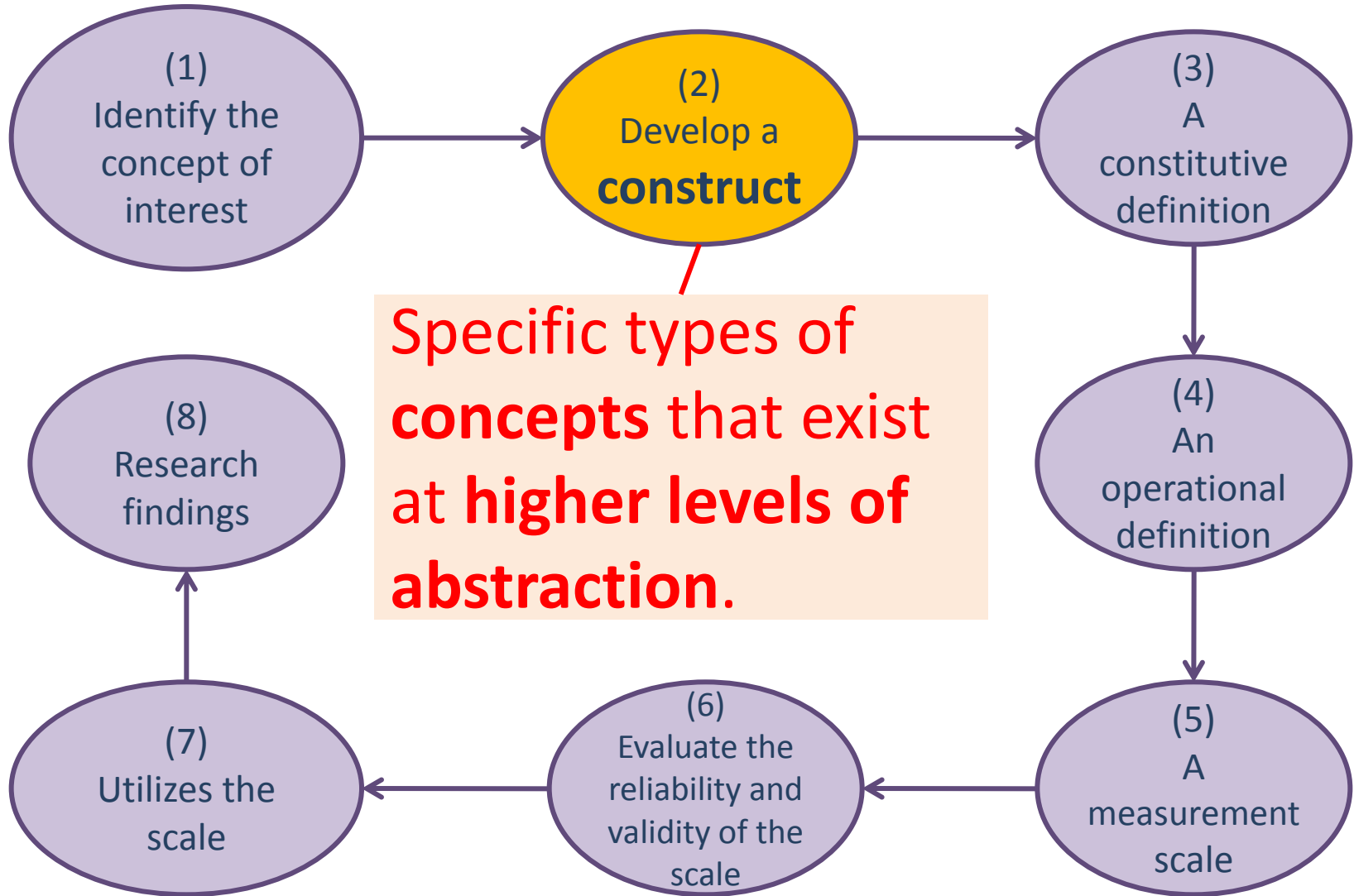
The Measurement Process



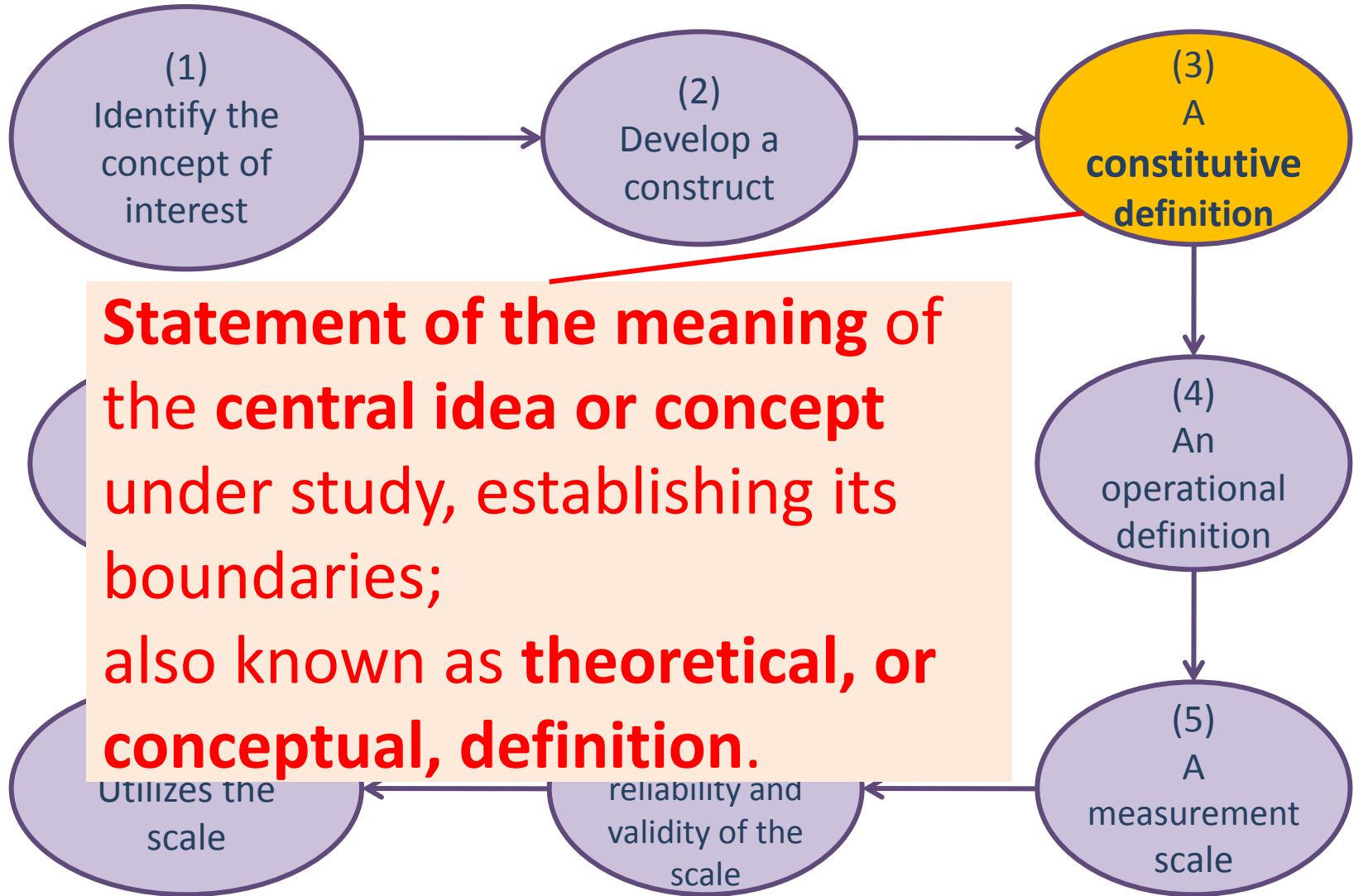
The Measurement Process



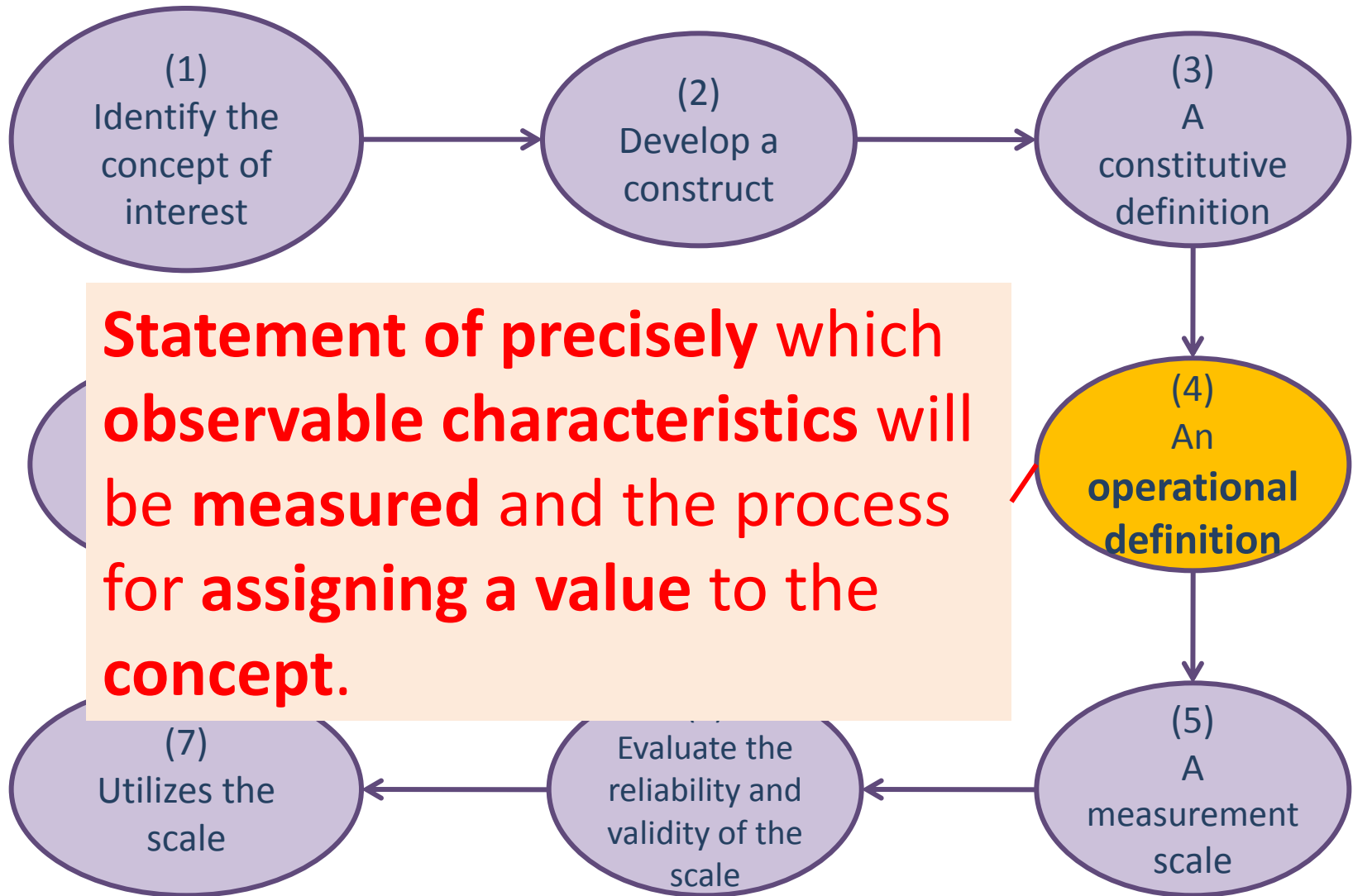
The Measurement Process



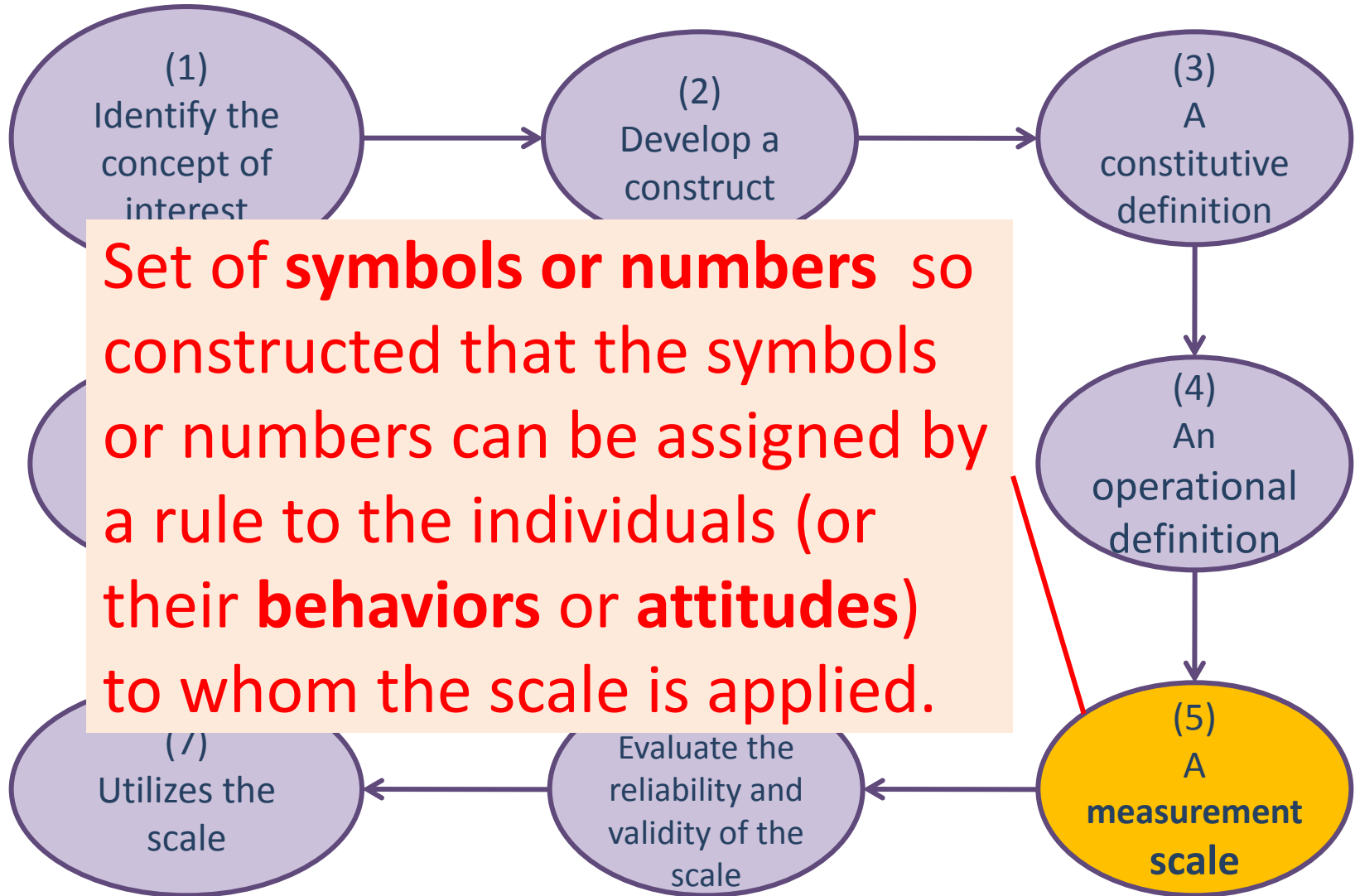
The Measurement Process



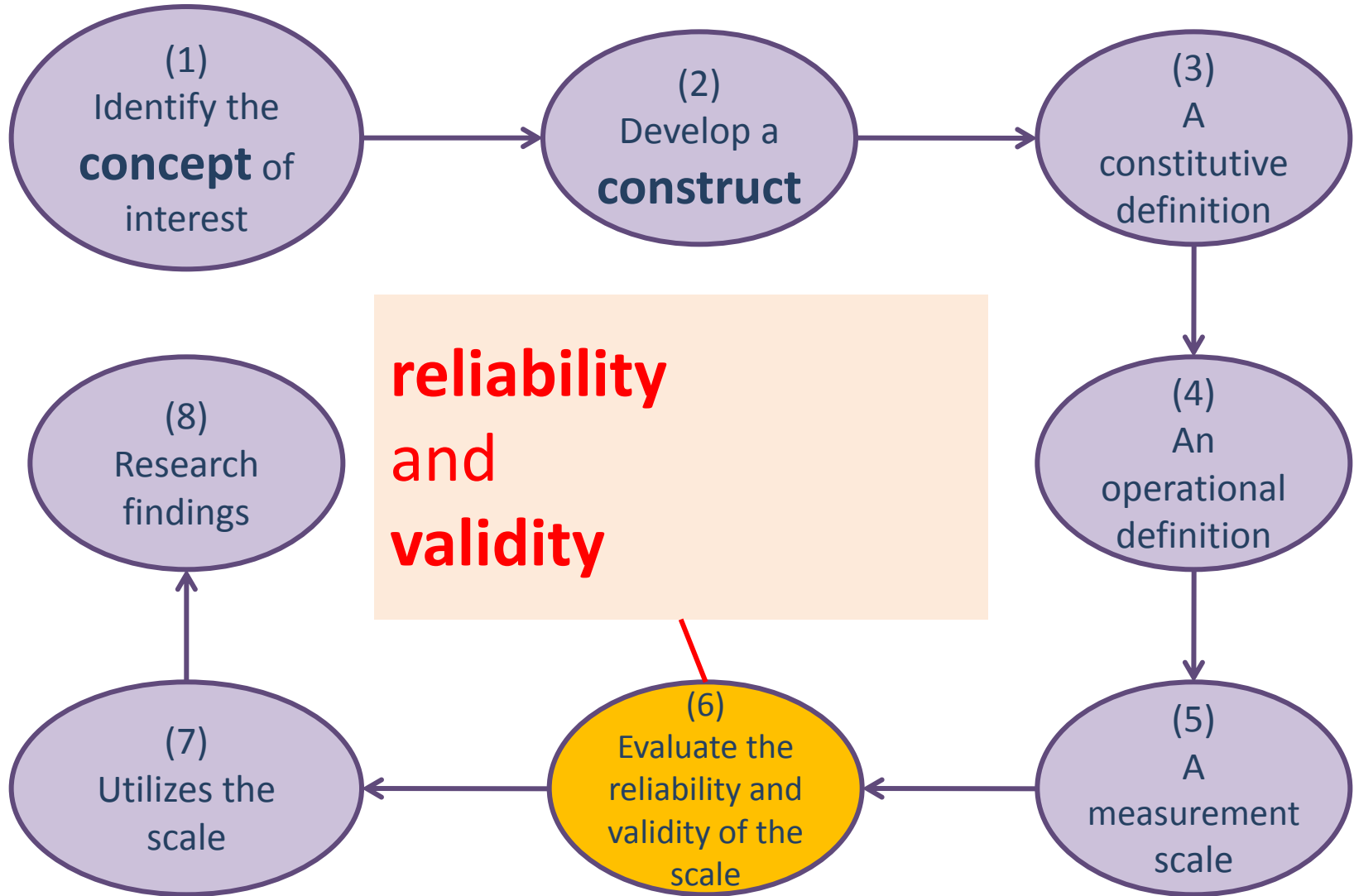
The Measurement Process



The Measurement Process



The Measurement Process



Validity

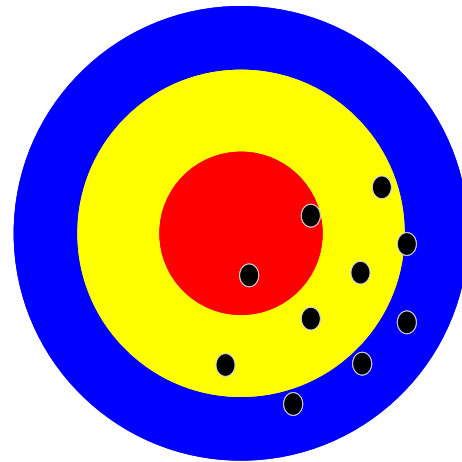
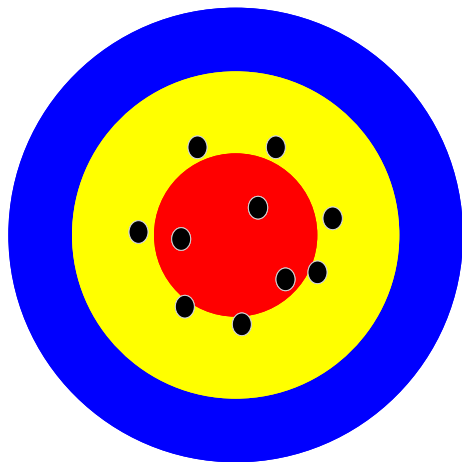
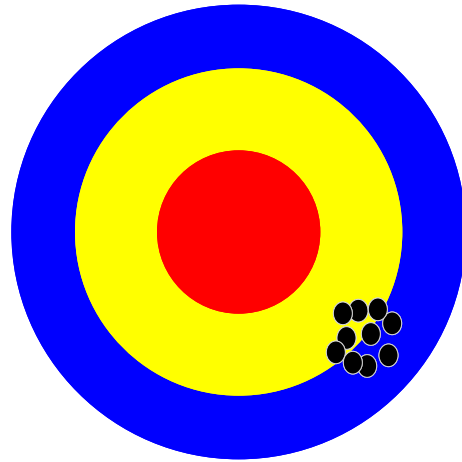
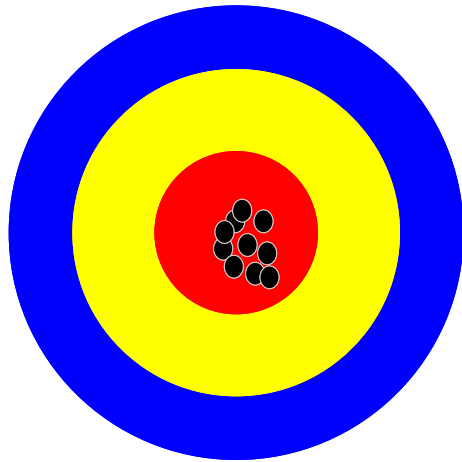
Reliability

Validity

Accuracy

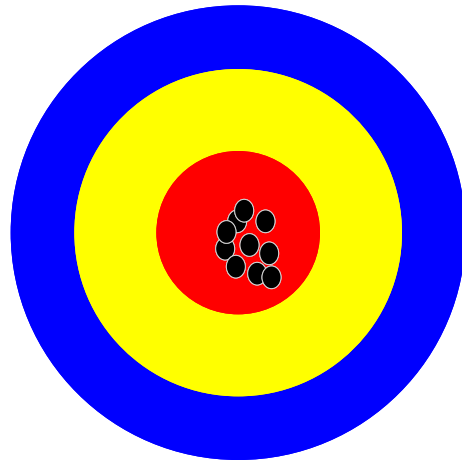
Reliability

Precision



Validity vs. Reliability

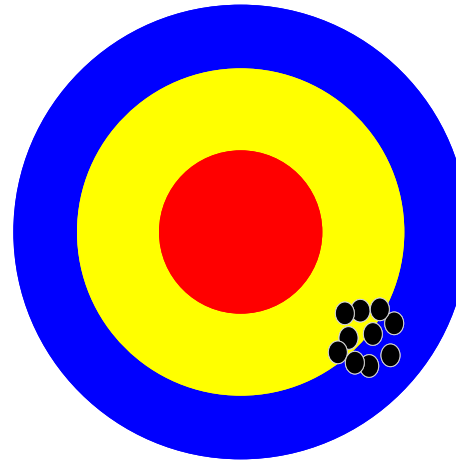
A



High Accuracy
High Precision

High Validity
High Reliability

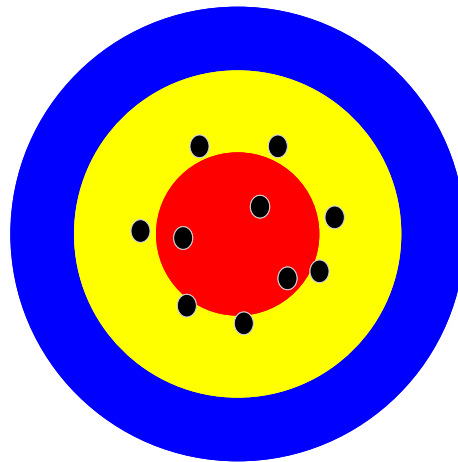
B



Low Accuracy
High Precision

Low Validity
High Reliability

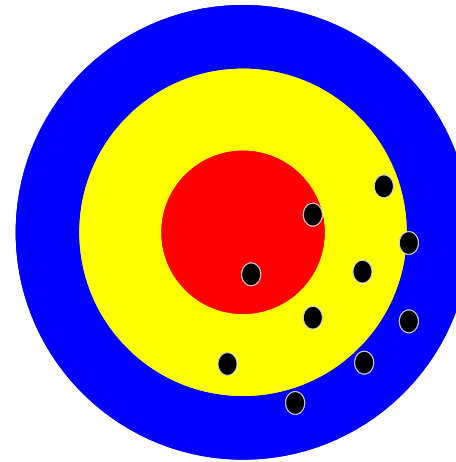
C



High Accuracy
Low Precision

High Validity
Low Reliability

D



Low Accuracy
Low Precision

Low Validity
Low Reliability

Constitutive Definition & Operational Definition

- Constitutive Definition
 - A theoretical or conceptual definition that defines the concept in terms of other concepts and constructs; like a dictionary definition
- Operational Definition
 - Defines which observable characteristics will be measured and the process for assigning a value to the concept

Example of Constitutive Definition & Operational Definition

Concept:

Repeat purchase

Construct:

Brand loyalty

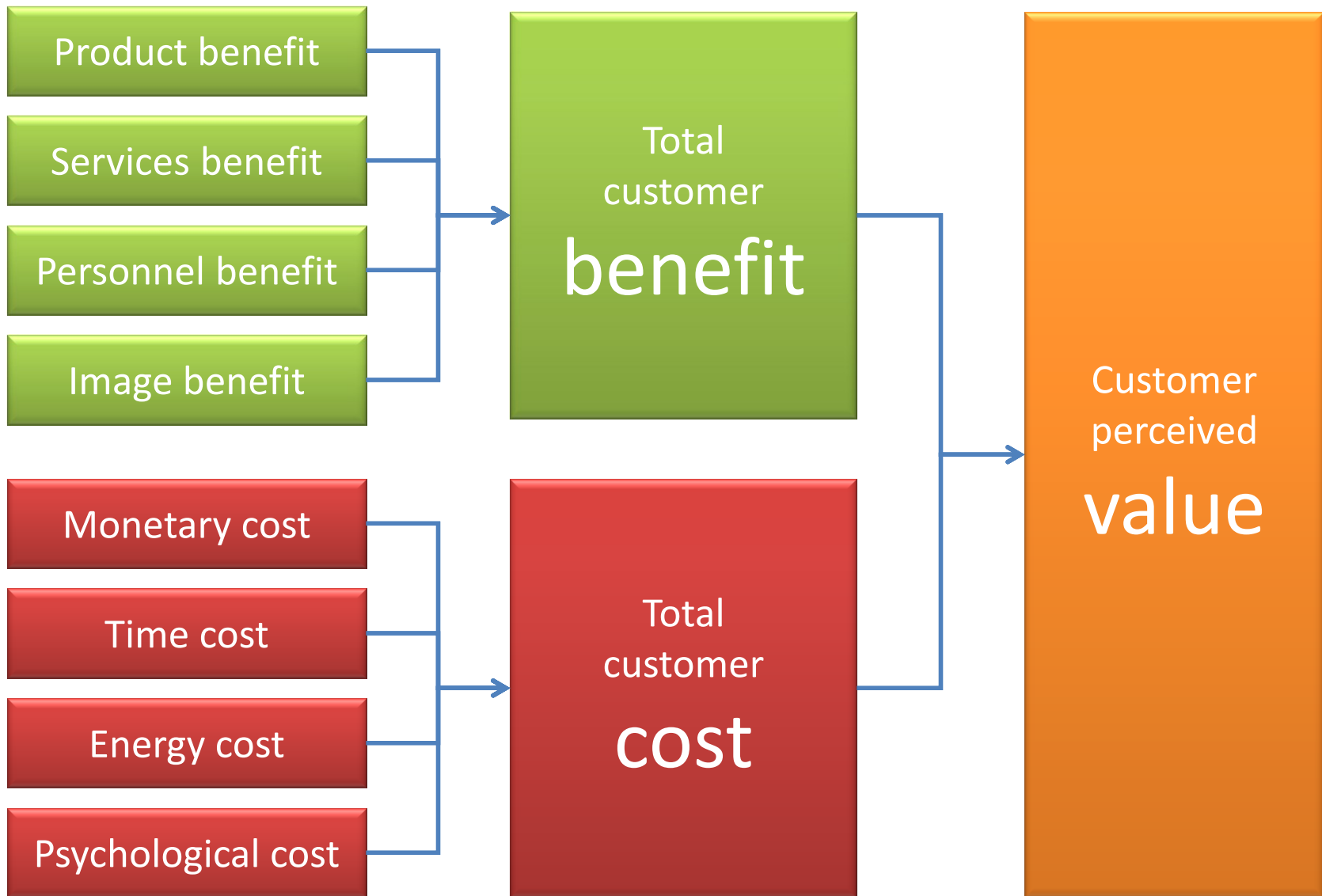
- **Constitutive Definition**
 - Increased propensity to purchase a brand due to previous experience with that brand
- **Operational Definition**
 - Rating of purchase probability, depending upon prior purchase

BRAND LOYALTY



Building
Customer Value,
Satisfaction,
and
Loyalty

Customer Perceived Value



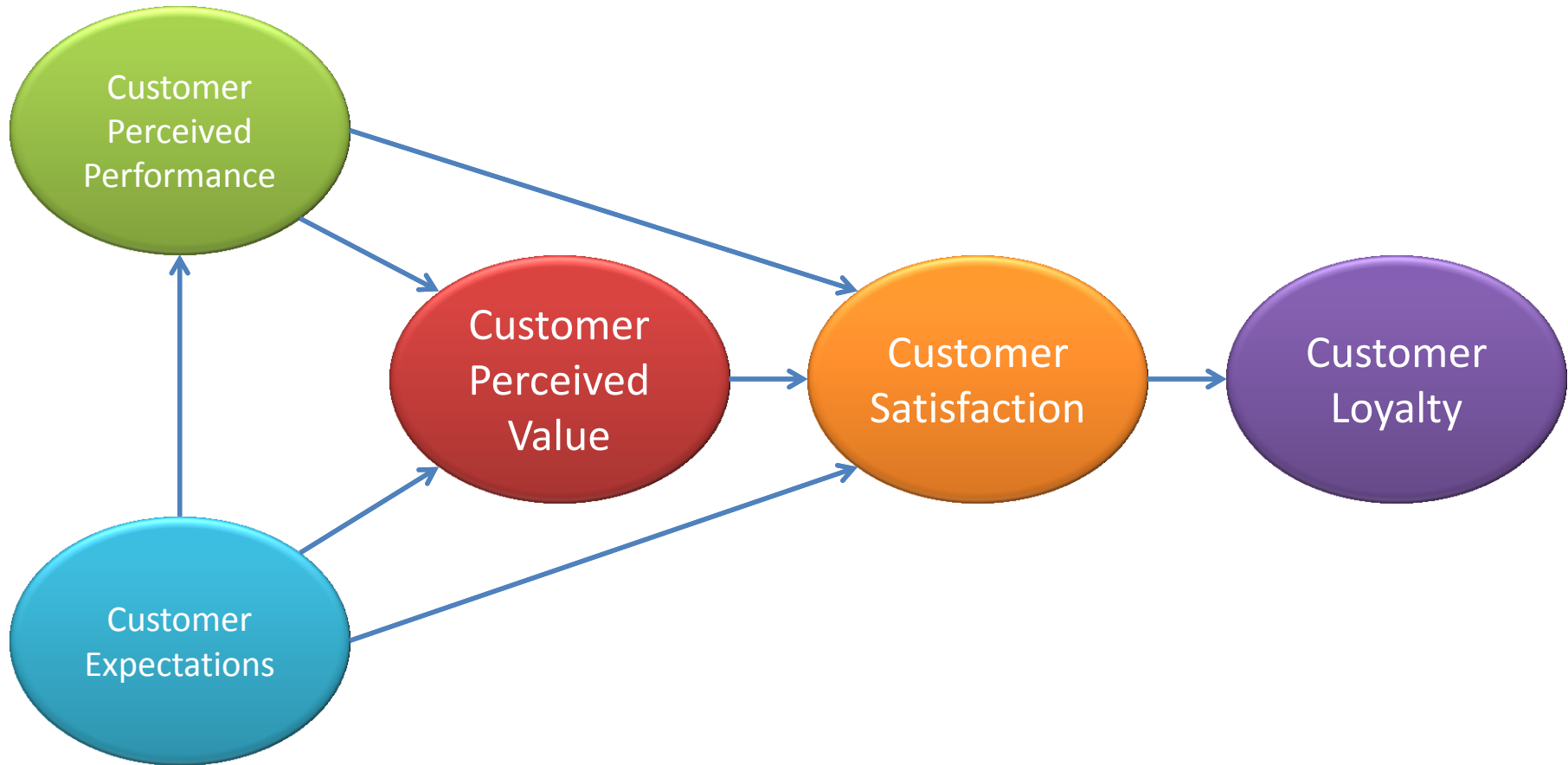
Satisfaction

“a person’s **feelings of pleasure or disappointment** that result from comparing a product’s **perceived performance** (or outcome) to **expectations**”

Loyalty

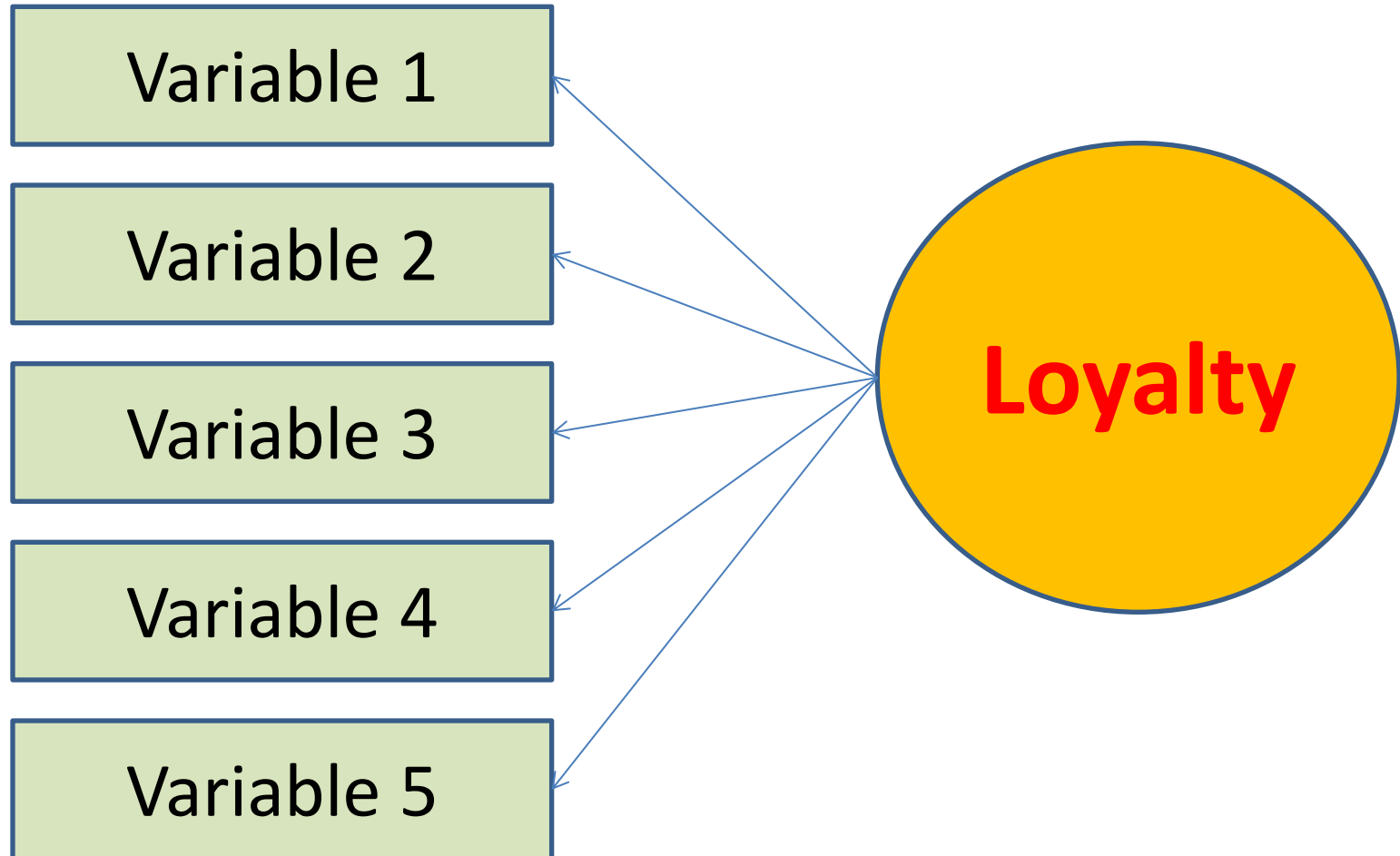
**“a deeply held commitment to
rebuy or repatronize
a preferred product or service
in the future
despite situational influences and
marketing efforts having the
potential to cause switching
behavior.”**

Customer Perceived Value, Customer Satisfaction, and Loyalty



5 Variables : 1 Factor

(5:1)



Measuring **Loyalty**

5 Variables (Items) (5:1)

(Zeithaml, Berry & Parasuraman, 1996)

Say **positive things** about XYZ to other people.

Recommend XYZ to someone who seeks your advice.

Encourage friends and relatives to do business with XYZ.

Consider XYZ your **first choice** to buy services.

Do more business with XYZ in the next few years.

Loyalty

Definition of Role Ambiguity

EXHIBIT 10.3

Constitutive and Operational Definitions of Role Ambiguity

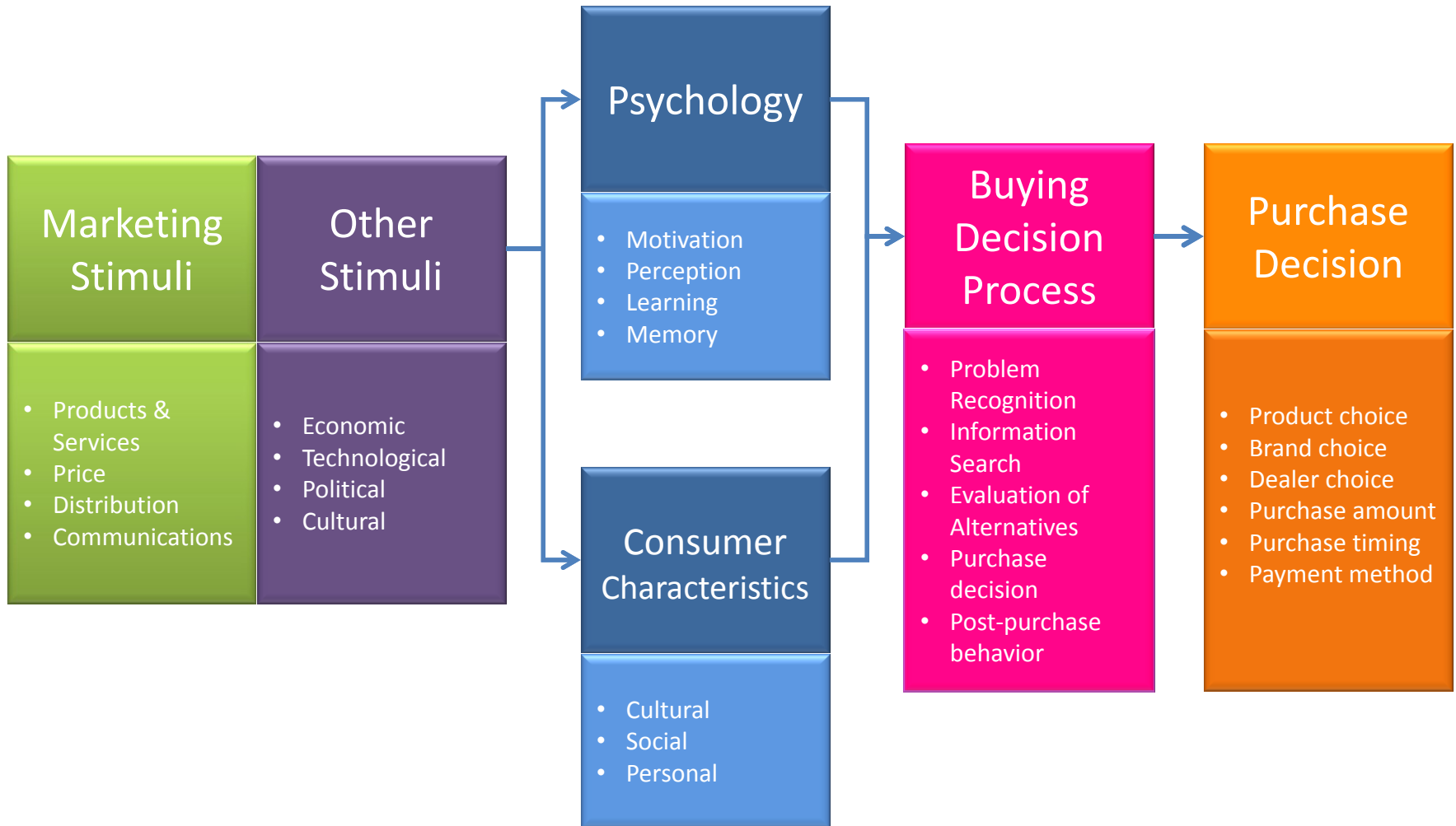
Constitutive Definition	Role ambiguity is a direct function of the discrepancy between the information available to the person and that which is required for adequate performance of a role. It is the difference between a person's actual state of knowledge and the knowledge that provides adequate satisfaction of that person's personal needs and values.
Operational Definition	Role ambiguity is the amount of uncertainty (ranging from very uncertain to very certain on a five-point scale) an individual feels regarding job role responsibilities and expectations from other employees and customers.
Measurement Scale	<p>The measurement scale consists of 45 items, with each item assessed by a five-point scale with category labels 1 – very certain, 2 – certain, 3 – neutral, 4 – uncertain, 5 – very uncertain. Samples of the 45 items follow:</p> <ul style="list-style-type: none"><input type="checkbox"/> How much freedom of action I am expected to have<input type="checkbox"/> How I am expected to handle nonroutine activities on the job<input type="checkbox"/> The sheer amount of work I am expected to do<input type="checkbox"/> To what extent my boss is open to hearing my point of view<input type="checkbox"/> How satisfied my boss is with me<input type="checkbox"/> How managers in other departments expect me to interact with them<input type="checkbox"/> What managers in other departments think about the job I perform<input type="checkbox"/> How I am expected to interact with my customers<input type="checkbox"/> How I should behave (with customers) while on the job<input type="checkbox"/> If I am expected to lie a little to win customer confidence<input type="checkbox"/> If I am expected to hide my company's foul-ups from my customers<input type="checkbox"/> About how much time my family feels I should spend on the job<input type="checkbox"/> To what extent my family expects me to share my job-related problems<input type="checkbox"/> How my co-workers expect me to behave while on the job<input type="checkbox"/> How much information my co-workers expect me to convey to my boss

Analyzing Consumer Markets

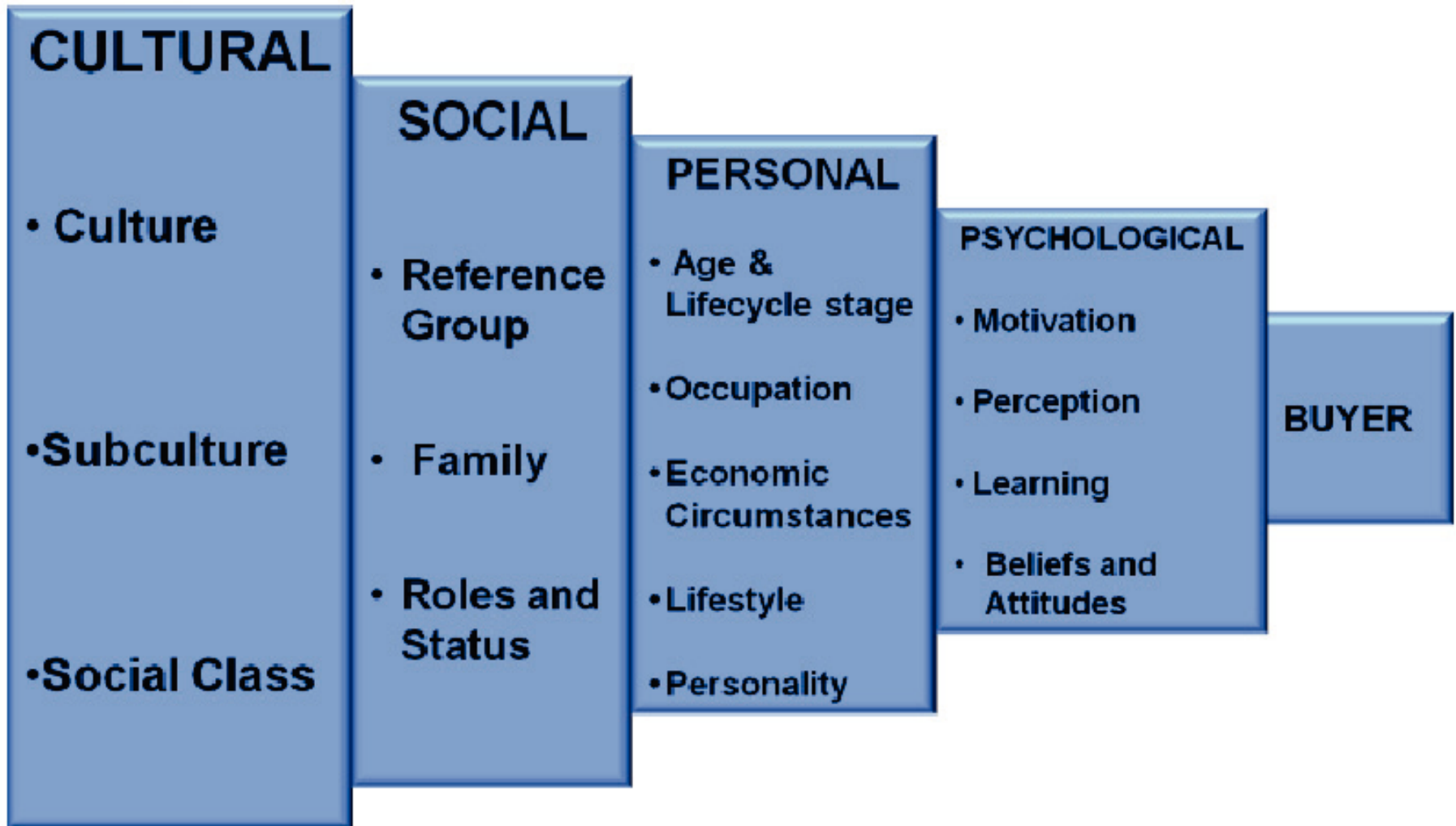
- The aim of marketing is to **meet** and **satisfy** target customers' **needs and wants** better than competitors.
- Marketers must have a thorough understanding of **how consumers think, feel, and act** and **offer clear value** to each and every target consumer.

How consumers think, feel, and act

Model of Consumer Behavior



Factors Affecting Consumer Behavior



Nothing
is
so practical
as a
good theory

Theory

“a set of propositions or
an abstract conceptualization of
the relationship between entities.”

Purpose of theory

increase **scientific understanding**
through a **systematized structure**
capable of both **explaining and**
predicting phenomena

(Hunt, 1991)

Theory

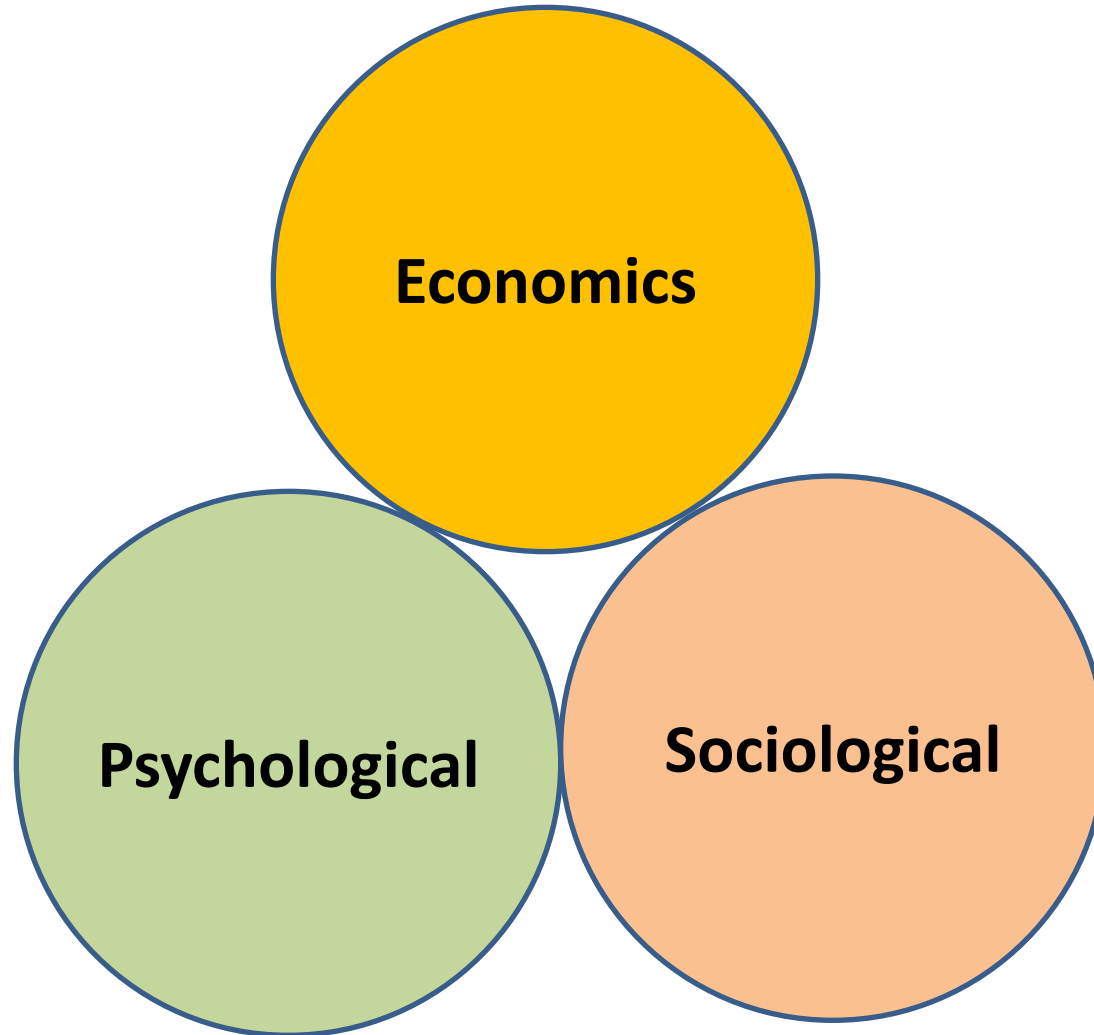
“a **statement** of
relations among **concepts**
within
a set of **boundary** assumptions
and **constraints**”
(Bacharach, 1989)

Marketing

**Identifying
and
meeting**

human and social needs

Basis of Marketing Theory



Disciplinary Underpinnings of Marketing Theory

- The **economics** basis of marketing
- The **psychological** basis of marketing
- The **sociological** basis of marketing
- Cultural aspects of marketing

Psychological foundations of marketing

- Motivation
- Perception
- Decision making
- Attitudes
- Persuasion

Psychological Constructs and Some Associated Marketing Areas

Psychological Construct	Marketing areas
Learning	Brand recall, loyalty
Motivation	Consumer needs, choice conflicts
Perception	Product packaging, advertising content
Decision making	Brand selection, consumer involvement, post-purchase evaluation
Attitudes	Customer satisfaction, trust, ad influence
Personality	Consumer segmentation, materialism, addictions

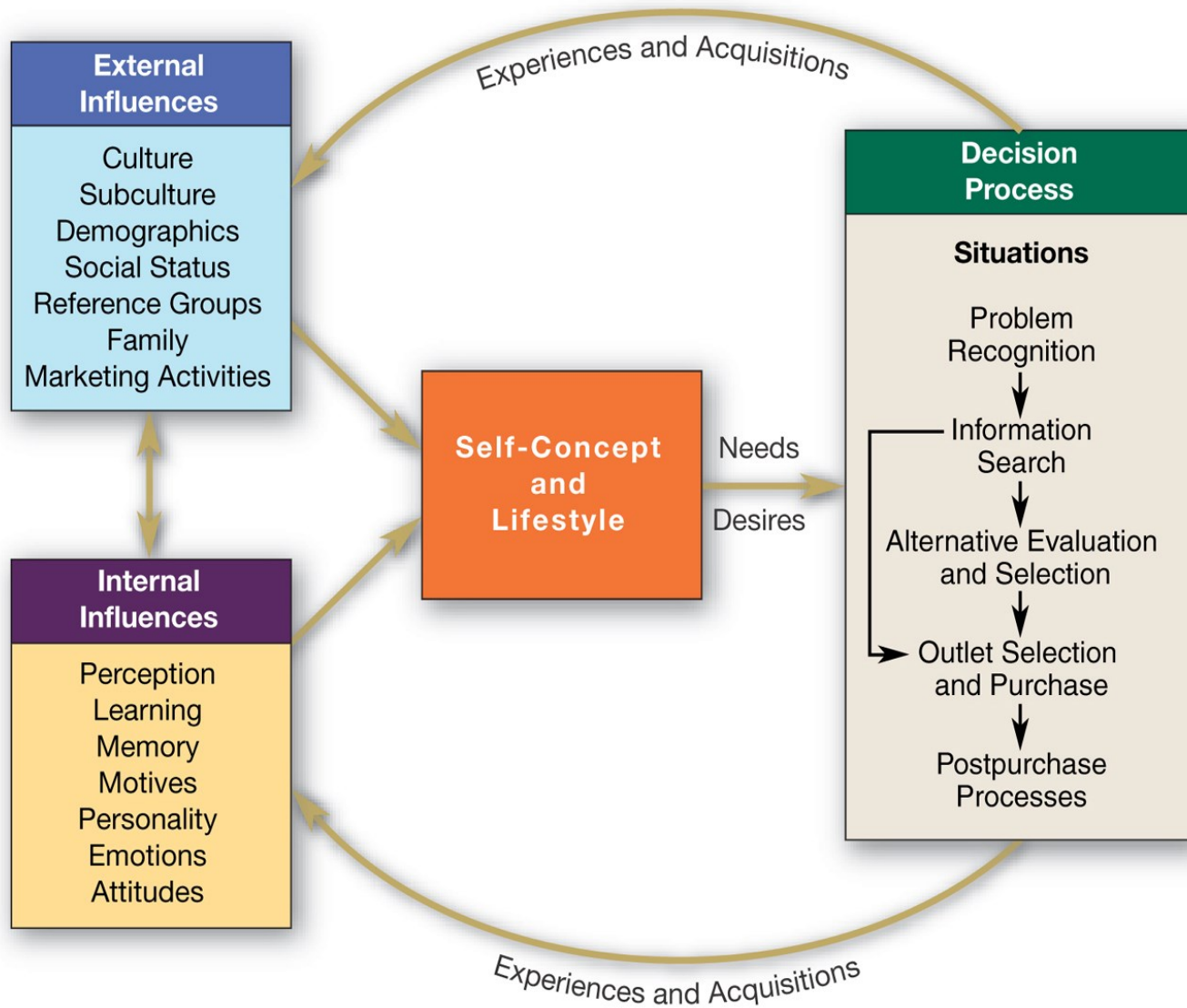
Motivation

- both **physiological needs** (e.g. hunger, thirst, pain avoidance, security, maintenance of body temperature)
and **psychogenic needs** (e.g. achievement, affiliation, status, approval, power)
motivate consumer behaviour

Motivation and Psychological Needs

- the waste of money and/or resources by people to display a higher status than others' is clearly linked to the **psychological ego-related needs** for **status**, **approval** and **self-confidence**, although it may be influenced in part by **extrinsic factors**, such as **social norms** and **cultural values**

Overall Model of Consumer Behavior



**The linkage among
attitudes,
behavior, and
marketing
effectiveness**

Attitudes and Linkage

- Attitude defined:
 - Enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of a person's environment.
 - Level of Customer Involvement
 - Attitude Measurement & Strength
 - Effects of Other People & Brands
 - Situational Factors

Summary

- Understanding the concept of Measurement
- The Measurement Process

蕭文龍,
多變量分析最佳入門實用書--SPSS+LISREL, 第二版,
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